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Instructions for use

## DESCRIPTIONS OF THREE NEW SPECIES OF THE TRIBE EPHIALTINI FROM JAPAN

(Hymenoptera, Ichneumonidae)

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As a supplement to the senior writer's revisional work of the Japanese Ephialtini (1928), three new species will be described herein after. All the types are preserved in the collection of the Entomological Institute, Hokkaido University.

The writers are much obliged to Dr. KUNIO IWATA for his kindness in offering the valuable material.

*Scambus divergens* sp. nov.

*Epiurus annulitarsis* MINAMIKAWA (nec ASHMEAD), Kontyû 22, p. 57 (1955).

♀. Head seen from above about 2.2 times as wide as long; temple slightly receding for some distance behind eye, then strongly rounded to occiput; occipital margin rather deeply emerginate. Temple seen in profile a little shorter than eye. Ocellar triangle weakly projected, but not margined. Diameter of median ocellus subequal to postocellar line and nearly as long as half of ocellocellar line, which is slightly shorter than ocelloccipital line. Vertex with a longitudinal weak impression from median ocellus to occipital carina. Vertex, temple, and frons virtually impunctate. Eye scarcely emerginate inwardly opposite antenna. Face subparallel-sided, transverse, at least 1.5 times as wide as long, very gently elevated medially, with broad but shallow oblique grooves diverging from base of clypeus, very finely and remotely punctate. Clypeus gently arched on basal margin, sharply sinuate in front, almost impunctate. Malar space short, about as long as one-third of basal width of mandible. Antenna 24- to 26-jointed. Pronotum virtually impunctate behind epomia. Mesonotum almost impunctate, with rather dense pubescence. Scutellum nearly flat, smooth. Propodeum distinctly covered with rather dense pubescence, coarsely and densely to confluent punctate dorsally, more weakly punctate laterally; median longitudinal carinae long, nearly reaching to apical third, strongly or weakly diverging towards apex; space between carinae and apical area impunctate and glabrous, the former sometimes transversely rugose. Meso- and metapleurum finely and weakly punctate, more sparsely so on the latter. Abdomen coarsely and closely punctate. Tergite 1 fully as long as apical width, rugose laterally, strongly punctate apically; dorsal carinae extending nearly half to apex; space between carinae smooth.

Tergite 2 about 2.0 times as wide as long; subapical impression very weak. Tergite 3 and following tergites strongly transverse. Ovipositor distinctly stout; sheath about as long as half length of abdomen. Legs of normal form. Hind tibia about as long as tarsus; first tarsal joint a little longer than following 3 joints together; last tarsal joint nearly 1.5 times as long as joint 3. Stigma of fore wing about 3.8 times as long as wide; radius originating at middle. Postnervulus broken below middle. Nervellus broken at lower third.

Black. Palpi, humeral angle of pronotum, and tegula reddish-yellow. Scutellum and postscutellum reddish. Abdomen often marked with brown. Wing hyaline; vein and stigma dark brown. Antenna black to brownish-black throughout. Fore and middle legs reddish-yellow; coxae much yellowish. Hind leg red; trochanter, posterior surface of tibia, and tarsus yellowish; a small basal spot and a large apical one of tibia, apices of hind tarsal joints 1 to 4, and last entire joint brownish.

Length of body ca. 9 to 10 mm.

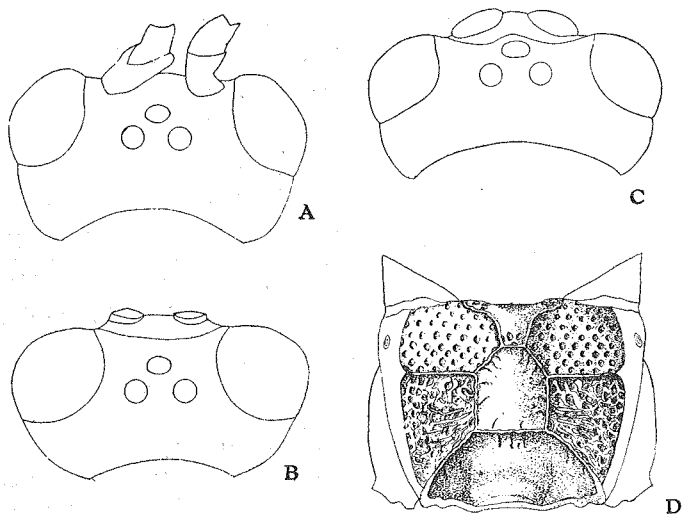


Fig. 1. Dorsal aspect of head: A, *Scambus divergens* sp. nov.; B, *Tromatobia flavistellata* sp. nov.; C, *Delomerista kusuii* sp. nov. Dorsal aspect of propodeum: D, *Delomerista kusuii* sp. nov.

♂. Body more slender than in female and distinctly pubescent. Punctuation much delicate. Tergite 1 slightly longer than apical width. Tergite 2 nearly as long as apical width. Tergite 3 and following tergites more or less transverse.

Black. Palpi and tegula reddish-yellow. Abdomen brownish. Antenna black throughout. Fore and middle legs reddish-yellow. Hind coxa and femur red;

trochanter and posterior surface of tibia yellowish-white; anterior surface of tibia and most part of tarsus reddish-yellow; a small basal spot and a large apical one of tibia, narrow apical annuli on tarsal joints 1 to 4 and last entire joint brownish.

Length of body ca. 8 mm.

Holotype: ♀, Sasayama Hyogo, Honshu, III. 1948, bred by KUNIO IWATA.

Allotype: ♂, Sasayama, Hyogo, Honshu, III. 1948, bred by KUNIO IWATA. Paratypes: 1 ♀, Kyoto, Honshu, 30/X. 1931, T. UCHIDA leg.; 1 ♀, Kochi, Shikoku, 12/XI. 1934, H. OKAMOTO leg.; 1 ♀, Sapporo, Hokkaido, 4/VI. 1935, Y. SUGIHARA leg.; 2 ♀♀, 1 ♂, Sasayama, Hyogo, Honshu, III. 1948, KUNIO IWATA bred.; 1 ♀, Kanaya, Shizuoka, Honshu, 17/V. 1949, J. MINAMIKAWA leg.; 1 ♀ Sasayama, Hyogo, Honshu, 26/VI. 1953, KUNIO IWATA leg.; 1 ♀, Sapporo, Hokkaido, 22/V. 1956, T. HARADA leg.

Habitat: Japan (Hokkaido, Honshu and Shikoku).

Host: 3 ♀♀, 2 ♂♂, including holotype and allotype, reared by Dr. KUNIO IWATA from Pyralid larvae infesting *Cirsum spicatum* (MAXIM.) MATSM. According to Mr. J. MINAMIKAWA, this species is parasitized on *Cryptotherea pryeri* LEECH.

In size, general form, and color the present species is quite similar to *S. detritus* (HOLMGREN), from which it is readily distinguished by the densely punctured and distinctly pubescent propodeum, the slightly more transverse tergites and the reddish scutellum and postscutellum, as well as the red anterior surface of the hind tibia. Furthermore, the male of this species is also distinguished from that of *detritus* by the distinctly pubescent body and the form of the fore femur which is not concaved.

*Tromatobia flavistellata* sp. nov.

♀. Head seen from above about

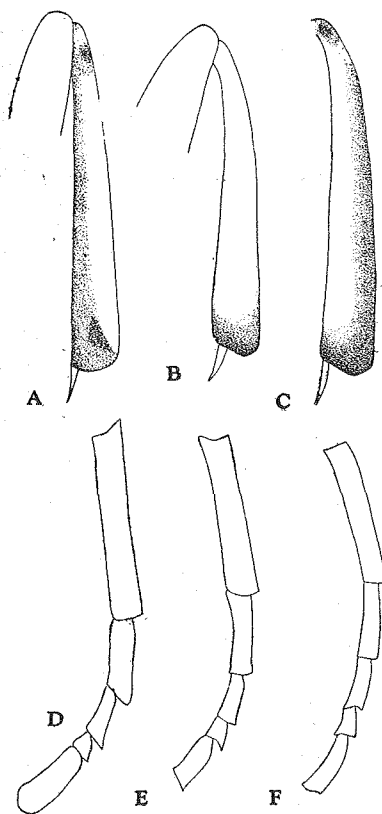


Fig. 2.

Lateral aspect of hind tibia: A, *Scambus divergens* sp. nov.; B, *Tromatobia flavistellata* sp. nov.; C, *Delomerista kusuoi* sp. nov. Lateral aspect of hind tarsus: D, *Scambus divergens* sp. nov.; E, *Tromatobia flavistellata* sp. nov.; F, *Delomerista kusuoi* sp. nov.

2.2 times as wide as long; temple sharply narrowed behind eye; occipital margin shallowly emerginate. Temple seen in profile slightly shorter than eye. Diameter of median ocellus subequal to postocellar line and oculocellar line, and much shorter than ocelloccipital line. Frons, temple and vertex almost smooth. Eye sharply emerginate inwardly opposite antenna. Face subparallel-sided, nearly as wide as long, with fine and remote punctures. Clypeus long, about 1.7 times as wide as median length, strongly arched on basal margin, scarcely sinuate in front, without punctures. Malar space about as long as half of basal width of mandible. Antenna 26-jointed. Thorax much deeper than half of length. Pronotum seen in lateral aspect short and deep, with lower margin rather strongly oblique. Mesonotum about 1.2 times as wide as long. Scutellum nearly as long as apical width, gently convex, almost impunctate. Propodeum coarsely and densely punctate; median longitudinal carinae strong, barely extending to basal third; space behind carinae more or less striate; apical area and space between carinae smooth. Metapleurum with a few rather fine punctures; upper carina not erased below propodeal spiracle. Abdomen coarsely, and closely punctate; tergites 2 to 5 callous and polished apically, deeply constricted basally, with shallow transverse impressions behind middle. Tergite 1 about as long as two-thirds of its apical width, with broad oblique grooves at apical angles. Tergite 2 and following tergites strongly transverse. Ovipositor sheath nearly as long as tergites 1 and 2 together. Legs of normal form. Hind tibia much shorter than tarsus; first tarsal joint about as long as following 3 joints together; last tarsal joint longer than joint 3. Stigma of fore wing about 3.0 times as long as wide; radius originating at middle. Postnervulus broken slightly below middle. Nervellus broken above middle, vertical.

Black. Palpi, a small spot on each side of vertex, and tegula yellow. Clypeus brownish. Tergites 1 to 5, except basal half of tergite 1 and narrow apical bands on tergites 2 to 5, red. Antenna brown; apical half of scape, pedicel and several basal joints of flagellar yellowish ventrally. Wing hyaline; stigma and vein brown. Fore and middle legs reddish-yellow; coxae and trochanters pure yellow. Hind leg red; trochanter and tarsus yellow; middle of tibia more or less yellowish; apex of tibia and that of each tarsal joint, except joint 4, black.

Length of body ca. 7 mm.

♂. Unknown.

Holotype: ♀, Sasayama, Hyogo, Honshu, 12/VI. 1955, KUNIO IWATA leg.

Habitat: Japan (Honshu).

The present species is closely related to *T. variabilis* (HOLMGREN) in having the deep pronotum, the punctured propodeum, the strong propodeal carinae, and the black inner orbit with a yellow small spot near top of eye. But it is distinguishable at once from the latter by the much sharply receding temple, the weak subapical impressions on the tergites, the reddish-yellow or red coxae, and the red tergites 1 to 5.

*Delomerista kusuii* sp. nov.

♀. Head seen from above about 2.3 times as wide as long; temple convexly receding behind eye; occipital margin widely but shallowly emerginate. Temple seen in profile slightly shorter than eye. Diameter of median ocellus subequal to postocellar line and nearly as long as half of ocelloccipital line, which is slightly longer than oculocellar line. Vertex with a shallow longitudinal sulcus from median ocellus to occipital carina, weakly and finely punctulate as in temple. Frons smooth. Face distinctly narrower than frons, at middle a little wider than long, distinctly tumid medially, densely and rather coarsely punctate excepting narrow lateral sides, more or less rugulose obliquely below antennal socket. Clypeus large, about 2.3 times as wide as long, slightly arched on basal margin, scarcely sinuate in front, with a few minute punctures basally. Malar space about as long as one-fourth of basal width of mandible. Antenna thick, barely as long as two-thirds of body, 41-jointed. Pronotum laterally with scattered punctures above, with several wrinkles near ventral angle. Mesonotum with fine punctures which are weak and sparse posteriorly; median lobe slightly produced forwards. Scutellum gently convex, with coarser punctures than those of mesonotum. Propodeum with distinct costulae; area externa densely punctate; area petiolaris, most part of area basalis, and area superomedia smooth; remainder of propodeum distinctly rugose; spiracle oval. Metapleurum rather coarsely but shallowly punctate above, more strongly and confluent below. Abdomen minutely reticulate-punctate; in each tergite punctures somewhat weak and much sparse apically. Tergite 1 about 1.2 times as wide as long, rugose laterally, punctate medially; dorsal carinae extending to basal third; space between carinae smooth. Tergite 2 clearly shorter than apical width and barely as long as tergite 1, with broad but short oblique grooves diverging from base. Tergite 3 with basal transverse impression which is fused laterally with broad oblique grooves. Ovipositor sheath about as long as basal 2 tergites together. Legs of normal form. Hind tibia nearly as long as tarsus; first tarsal joint slightly longer than following 2 joints together; last tarsal joint a little longer than joint 3. Stigma of fore wing long and narrow, about 4.0 times as long as wide; radius originating from basal two-thirds. Nervulus postfurcal; postnervulus broken below middle. Nervellus broken at middle.

Black. Palpi, clypeus, mandible except apex, malar space, a small spot below antenna, and tegula reddish-yellow. Antenna dark brown; underside reddish-yellow. Apical margins of tergites reddish. Wing hyaline; stigma and vein dark brown. Fore and middle legs reddish-yellow. Hind coxa and femur red; trochanter, anterior surface of tibia except apex, and base of first tarsal joint yellowish; rest of tibia and that of tarsus black.

Length of body ca. 1.2 mm.

♂. Unknown.

Holotype: ♀, Kyoto, Honshu, 29/V. 1955, KUSUO IWATA leg. Paratype: ♀, Kyoto, Honshu, 29/V. 1955, KUSUO IWATA leg.

Habitat: Japan (Honshu).

Judging from the literature, the present species is closely related to *D. pfankuchi* (BRAUNS), but it is distinguishable from the latter by the clearly shorter and thicker antenna and the separated dorso-lateral area of the propodeum, as well as the yellow hind trochanter and anterior surface of the hind tibia. This species is also very similar to *D. mandibularis* GRAVENHORST, from which it is easily distinguishable in having the abdomen reticulate-punctate, without distinct roll in each tergite apically, the ovipositor much shorter, and the spot below antenna reddish-yellow.